

ABSTRACT OF THE DISCLOSURE

11-3-04
To provide a liquid discharge head, a liquid
discharge apparatus, a ^{valve} ~~value~~ protection method of the
liquid discharge head, and a maintenance device.

5 The liquid discharge apparatus provided with: a
discharge port for discharging liquid, a liquid flow
path communicating with the discharge port having a
bubble generating region for generating bubble, a
discharge energy generating element for generating
10 thermal energy for generating the bubble in the liquid
inside the bubble generating region, and a liquid
discharge head facing the discharge energy generating
element spaced apart from the discharge energy
generating element having a movable member in which an
15 end portion at an upstream side in a flow direction of
the liquid inside the liquid flow path is fixed and a
down stream end thereof is a free end, in which ink is
discharged from the liquid discharge head and a
recording is performed by adhering the liquid on a
20 medium to be recorded, includes: a unit for detecting
an ink supply state inside the liquid flow path, and a
unit for controlling or stopping the driving to the
discharge energy generating element when a judgment is
made that the ink is not normally supplied based on the
25 detection result of the ink supply state inside the
liquid flow path.